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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,640	07/29/2003	William Dale Jones	SSI-08200	8274
28960	7590	06/15/2005		
HAVERSTOCK & OWENS LLP 162 NORTH WOLFE ROAD SUNNYVALE, CA 94086			EXAMINER STINSON, FRANKIE L	
			ART UNIT	PAPER NUMBER
			1746	
DATE MAILED: 06/15/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/630,640

Applicant(s)

JONES

Examiner

FRANKIE L. STINSON

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 31-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>VARIOUS</u>   | 6) <input type="checkbox"/> Other: ____                                     |

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-30, drawn to an apparatus for use in a system for supercritical processing of an object, classified in class 134, subclass 200.
- II. Claims 31-39, drawn to a method of regulating a flow of a processing chemistry into a system for supercritical processing of an object, classified in class 134, subclass 18.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another method such as a method of cleaning an object.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Thomas Haverstock on 05/03/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-39 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 8, 9-14, 16, 17, 21-26, 28 and 29 are rejected under 35

U.S.C. 102(e) as being clearly anticipated by either Costantini et al. (U. S. Pat. No. 6,612,317) or Yamagata et al. (U. S. Pat. No. 6,874,513).

Re claim 1 and 16, Costantini and Yamagata are cited disclosing a system for supercritical processing of an object with a fluid, comprising: a high-pressure process chamber (37 in Costantini and 30, 31 in Yamagata); means (23 in Costantini and 12 in Yamagata) for injecting a processing chemistry into the high-pressure process chamber including means (72 in Costantini and 24, 25 in Yamagata) for starting and means for stopping the means for injecting; and means (67, 68, 27 in Costantini and 14, 15 in Yamagata) for substantially preventing fluid from re-entering the means for injecting. Re claims 2 and 17, Costantini and Yamagata inherently disclose the predetermined pressure in that the vessel/chamber is pressurized and to inject the fluid therein, it would require a known pressure to overcome. Re claims 6, 7, 21 and 22 and 26, Costantini and Yamagata disclose control means. Re claims 8, 19, 23 and 24, Costantini and Yamagata disclose the preventing means operative when at least one of the means for stopping is active and the means for starting is active. Re claim 10 and

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27, Yamagata discloses the object as being semiconductor wafers. Re claims 11-14, 28 and 29, Costantini and Yamagata both disclose the fluid source/supplying and the same being a supercritical fluid, liquid carbon dioxide. Re claim 15, Costantini and Yamagata both disclose the mixing of the fluids (see col. 8, lines 51-58 in Costantini and as at 28, 29 in Yamagata). Re claim 25, Costantini and Yamagata disclose the high-pressure chamber.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Costantini et al. and Yamagata et al.

Claims 3 and 18 define over Costantini and Yamagata only in the recitation of the specific pressure. Nonetheless, to employ one pressure over another is an obvious matter of a design choice. Re claim 3-5, Costantini and Yamagata disclose the back-flow preventing means.

10. Claim 30 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Smith Jr. et al. (U. S. Pat. No. 5,509,431).

Re claim 30, Smith discloses a supercritical processing system for processing a wafer with a fluid, the fluid being from a fluid source, the system comprising:

a. a circulation loop (21, 45, 48, 49) coupled to a high-pressure processing chamber; and

- b. an inlet line (at 38, 39, 26) for introducing the fluid into the circulation loop, the inlet line including:
- i. an inlet port (unnumbered) in the circulation loop;
  - ii. a back-pressure regulator (39) coupled to the inlet port;
  - iii. a pump (38) for compressing the fluid to form a pressurized fluid;
  - iv. a first line (downstream 38) for transferring the pressurized fluid from the pump to the back-pressure regulator, the first line configured to maintain a uni-directional flow of the pressurized fluid from the pump towards the back-pressure regulator; and
  - v. a second line (upstream 38) for transferring a quantity of the fluid from the fluid source (37) to the pump, the second line configured to maintain a uni-directional flow of the fluid from the fluid source to the pump.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Lansberry et al., Shore et al., Preston et al., Stucker, Chao et al., Hoy et al., Lerette et al., Roberts et al., Kegler et al., Malchow et al., note the supercritical fluid used for cleaning.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is (572) 272-1308. The examiner can normally be reached on M-F from 5:30 am to 2:00 pm and some Saturdays from approximately 5:30 am to 11:30 am.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached on (571) 272-1700. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

fls

  
FRANKIE L. STINSON  
Primary Examiner  
GROUP ART UNIT 1746